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U.S. DEPARTMENT OF AGRICULTURE
ENTOMOLOGY SECTION
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**the
imported
FIRE ANT**
a rural and residential pest

U.S. DEPARTMENT OF AGRICULTURE
PROGRAM AID 592

Plant Protection and Quarantine Programs
Animal and Plant Health Inspection Service

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the imported fire ant – a rural and residential pest

The imported fire ant is a small, aggressive insect that packs a painful, burning sting. When disturbed, it is quick to attack both people and animals.

Each colony of imported fire ants builds a hard-crusted nest, or mound, sometimes three feet high and nearly three feet across. In some areas, there may be as many as 50 mounds per acre making it difficult to operate

mowers and other machinery in lawns, park grounds, cemeteries, pastures and farmers' fields.

The ants are foreign pests that invaded this country at Mobile, Ala., in 1918. Since then, they have spread into more than 120 million acres in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Texas.

DAMAGE

The damage this pest causes is difficult to measure in dollars. Its stings cause blisters that take as long as 10 days to heal. If they break, infection may develop. Some people have been hospitalized; a few have died—primarily from allergic reaction to the stings.

Fire ant mounds on homesites, school yards, and recreational

areas are an eyesore, and the ants are a hazard to children and pets. On farms, the mounds often cause damage to combines and other agricultural machinery. Farm workers may refuse to work on land where ants are numerous for fear of being stung while clearing clogged mower blades, handling crops, or performing other tasks.

DESCRIPTION AND HABITS

Imported fire ants look like ordinary house and garden ants. They are $\frac{1}{8}$ to $\frac{1}{4}$ inch long and reddish-brown or dark brown to black in color. A single mature mound contains a queen ant, several thousand winged males and females (future queens), and up to 100,000 workers.

The winged forms leave the mound—most frequently in May and June—and mate in flight. Afterward, the queens land and

break off their wings. They dig shallow burrows in the soil and begin laying eggs that start new colonies.

Winds and air currents may carry the new queens 12 or more miles during mating flights. Like people, they prefer to build their "homes" in open, sunny areas. Thus, the most valuable land on farms and in suburbs is often the most likely to be infested.

FEDERAL ASSISTANCE

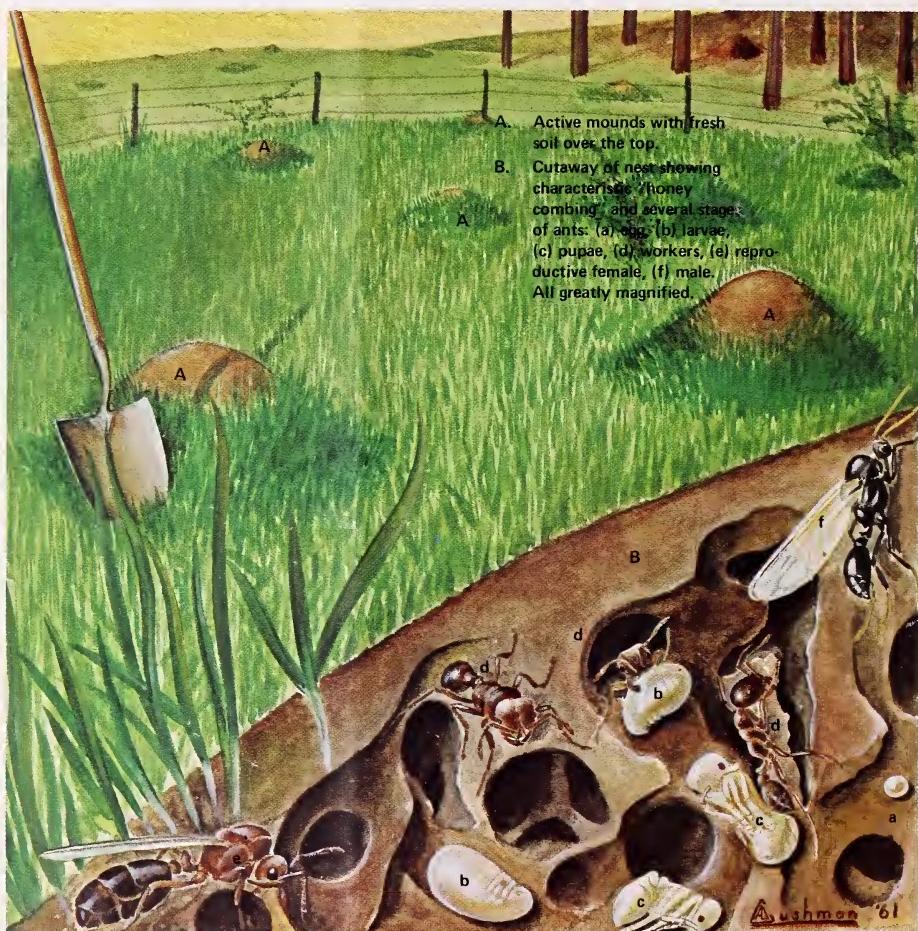
Upon request, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) will join in Federal-State programs to control the imported fire ant.

Requests for assistance should begin at the local level. Individuals or communities no longer able to handle their fire ant problems should request help from their State Department of Agri-

culture (APHIS deals only with the States). The State then determines if the need for a coordinated control effort is real, and if Federal assistance is necessary.

To obtain Federal help, these requirements must be met:

1. Local property owners must have requested aid through State and/or local agencies.



2. Imported fire ants must be present over a large enough area, and in high enough numbers, to interfere with agricultural operations and/or be a health hazard and nuisance to people.

3. State and/or local funds must be available to match

APHIS' contributions to the control program.

4. APHIS scientists must determine that it is possible to achieve effective control without treating estuaries, wildlife refuges, and other sensitive areas.

THE COOPERATIVE PROGRAMS

APHIS-State cooperative programs consist of the following five activities:

Quarantines: Areas where the ants are found are placed under Federal and State cooperative quarantines to prevent spread of the ants. Restrictions apply to movement of articles that might carry ants hitchhiking. Such articles include soil, plants with roots, grass sod, hay and straw, logs and wood, and used soil-moving equipment. These articles cannot be legally transported from infested to uninfested areas until they have been inspected, treated if necessary, and certified "pest free" by an APHIS or State inspector.

Survey: Surveys are made to determine the location, size, and degree of ant infestations. This information is used by Federal and State officials planning regulatory and control work.

Control: A specially developed insecticide bait, called mirex, is used to kill the ants.

The bait is made up of corncob grits treated with soybean oil and a small amount of mirex. At-

tracted by the soybean oil, the worker ants carry the bait into their mounds. There, the oil containing the mirex is eaten by the queen, brood, and worker ants. When the queen dies, reproduction ends and the colony eventually dies off.

Mirex bait is applied by aircraft in spring or fall at the rate of 1.25 pounds per acre. At this rate, each acre treated receives one teaspoonful of the insecticide carried by the bait.

Aerial application is the most effective control method—using a minimum amount of bait. Ground application equipment is used in "mopping-up" operations after aerial treatment.

Federal and State officials supervise all operations. Marshlands, wildlife refuges, and estuaries are not treated.

Monitoring: Twenty-five to 60 days after bait application, APHIS scientists collect samples for analysis.

Samples of soil, vegetation, water, sediment, mammals, birds, fish, and crayfish are collected for analysis for mirex residues



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at the APHIS Environmental Quality Laboratory at Gulfport, Miss. Effectiveness of the control program is evaluated as well as any residue buildups in the environment and its components.

Research and Development: The U.S. Department of Agriculture is continually seeking new and better ways to control imported fire ants. The major lines of research include:

- Improving the safety and effectiveness of the present mirex bait.

- Development of new chemicals to replace mirex—each year, several hundred insecticides (new and old) are tested against the imported fire ant.

- Development of totally new methods of control. This approach includes the use of chemo-sterilants, artificial insect hormones, and attractants. Life cycle studies are also being conducted on the ant. These studies may turn up factors in the pest's biology which could lead to yet unimagined control methods.

YOU CAN HELP

The most successful way to control the imported fire ant is through an area-wide cooperative program. Treatment of individual mounds with mirex bait is not very effective since the ants soon reinvade treated property. Individual action may be necessary, however, to obtain relief from the ants until a control program can reach your area.

It is also important that you kill off any mounds surviving aircraft treatment in a cooperative program. Aerial application usually controls ant population for two years. "Spot treatment" of surviving mounds greatly increases the control period.

Mirex bait may be available at local hardware or garden supply stores. If not, your State Department of Agriculture can tell you where it can be purchased. Some

States maintain stations where the bait can be bought at below-retail price.

Mound-to-mound treatment may be used on lawns and other small areas. This involves placing a small amount of bait around each mound. Use only the dosage shown on the product label. Do not overlook small, new mounds.

Ground application equipment (manual or power) is needed for larger areas. Such equipment must be carefully calibrated to deliver the amount of bait indicated on the product label.

Do not expect immediate results from the application; it may be 2 to 4 weeks before the ants die. Additional treatments may be necessary after 3 months. Follow safety and other directions on the mirex container label in treating your property.

PRECAUTIONS

As with any insecticide, certain precautions should be followed when handling and using mirex bait.

- Follow all application directions and precautions on the mirex container label.
- Use the mirex bait selectively and carefully.
- After handling mirex bait, do not eat, drink, or smoke until

you have washed with soap and water. If the bait is swallowed or gets into your eyes, get medical attention immediately.

- Keep the mirex container tightly closed when not in use. Store it in a cool, dry place away from other pesticides and food-stuffs, and out of the reach of children and pets.



